

REMARKS

Claims 1-35 are pending in the case. The Office Action rejected claims 1-6, 11, 12, 17-18, 20, 22, and 24-35, but indicated that claims 7-10, 13-16, 19, 21 and 23 would be allowable but for their dependence from rejected base claims. Claims 1-6, 11, 12, 17-18, 20, 22, and 24-35 were rejected as anticipated under 35 U.S.C. 102 (a) by Applicant's description of related art at pp. 2-4 of the application as filed. The Office Action also objected to several aspects of the content and form of the application. Applicant has cured the objections herein and traverses each of the rejections.

I. RESPONSE TO INFORMALITIES

The Office requested "the information disclosed in the specification, pages 2-4, 'DESCRIPTION OF THE RELATED ART'." Applicant notes that the information is already in possession of the Office by virtue of its disclosure in the specification. Applicant's representative typically sees such a request where the Office seeks copies of specific references cited by the applicant in an application. However, Applicant cites no references in that portion of the application. Given the breadth of the related art and the lack of direction regarding the Office's interest, Applicant respectfully requests clarification regarding exactly what information the Office wishes to see.

The objection to the content of the Abstract has been cured by amendment to the Abstract presented herein.

The objection to the specification for lack of a serial number on the related application has been cured by amendment to the specification above.

Applicant notes that the Office Action contains no disposition as to the acceptability of the drawings. Applicant presumes that the drawings meet the approval of the Office and are accepted unless notified to the contrary by the Office.

II. RESPONSE TO SUBSTANTIVE REJECTION

Claims 1-6, 11, 12, 17-18, 20, 22, and 24-35 were rejected as anticipated under 35 U.S.C. 102 (a) by Applicant's description of related art at pp. 2-4 of the application as filed. The Office's position is that equations (11) – (14) and (19) are the same as equations (1)-(4), and so the claims must be anticipated. Applicant respectfully disagrees.

Applicant's specification, as filed, makes the same observation from p. 7, lines 21-22, where it states, "Note that the present invention employs the same starting point as does the known filtering technique discussed above." Note, however, that Applicant's specification continues, and distinguishes the present invention from the known filtering technique. Applicant's specification at p. 8, lines 8-16, more particularly, states, "However, the variance estimation of the measured quantity signal $z[n]$ is performed differently than in the known techniques above. The estimation of $R[n]$ is accomplished by filtering the square instantaneous prediction error $e^2[n]$... which gives a smoothed estimate of the error variance $\hat{\sigma}_e^2[n]$." This discussion also incorporates Eq. (18) and Eq. (19), which have no counterpart or analogue in Applicant's description of the related art.

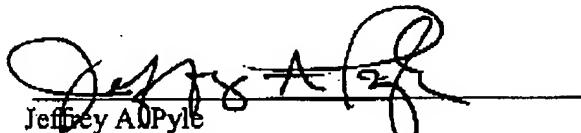
Applicant notes that this distinction appears in the claims where they recite a "smoothed estimate of the measured quantity's signal," or some close variant. (cl. 1, lines 7-9; cl. 4, line 6; cl. 17, line 13; claim 24, lines 7-9; cl. 27, lines 6-7; cl. 30, line 7; cl. 33, line 6) There is no

discussion of this limitation in Applicant's description of related art. Nor does the Office Action allege there is. Nor may such a teaching be fairly implied therefrom.

Applicant therefore respectfully submits that the claims are allowable. An anticipating reference, by definition, must disclose every limitation of the rejected claim in the same relationship to one another as set forth in the claim. *In re Bond*, 15 U.S.P.Q.2d (BNA) 1566, 1567 (Fed. Cir. 1990). Since Applicant's description of the related art fails to teach all the limitations of the claims, it fails to anticipate the claims. Accordingly, Applicant requests that they be allowed to issue.

The Examiner is invited to contact the undersigned attorney at (713) 934-4053 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



Jeffrey A. Pyle
Reg. No. 34,904

Attorney for Applicant

WILLIAMS, MORGAN & AMERSON
CUSTOMER NUMBER: 23720

10333 Richmond Dr., Suite 1100
Houston, Texas 77042
(713) 934-7000

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ABSTRACT OF THE DISCLOSURE

The invention is a A Kalman filtering technique employing an adaptive measurement variance estimator is disclosed. The invention Kalman filtering technique includes a signal filtering mechanism, the signal filtering mechanism further includes comprising a Kalman filter and a variance estimator. The variance estimation used in the filtering includes estimating the variance of the measured quantity signal and generating the variance estimate signal for use in filtering the input signal and the measured quantity signal, wherein estimating the variance of the measured quantity signal includes determining a smoothed estimate of the measured quantity's variance from the measured quantity signal. The invention also manifests itself as a method for filtering and estimating, a program storage medium encoded with instructions that, when executed by a computer, performs such a method, an electronic computing device programmed to perform such a method, and a transmission medium over which the method is performed.